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Database:

V_ 0	hyaluronic	acid	same	phosphatidyl	<b>^</b>	
Refine Search:	glycerol					Clear
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# **Search History**

Today's Date: 8/7/2001

DB Name	<b>Query</b>	Hit Count	Set Name
USPT,PGPB,JPAB,EPAB,DWPI	hyaluronic acid same phosphatidyl glycerol	6	<u>L6</u>
USPT,PGPB,JPAB,EPAB,DWPI	glycosaminoglycan same phosphatidyl glycerol	0	<u>L5</u>
USPT,PGPB,JPAB,EPAB,DWPI	glycosaminoglycan with glycerol	5	<u>L4</u>
USPT,PGPB,JPAB,EPAB,DWPI	12 same micelles	1	<u>L3</u>
USPT,PGPB,JPAB,EPAB,DWPI	lipid with hyaluronic acid	135	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI	DSPE with hyaluronic acid	9	<u>L1</u>

L1: Entry 8 of 9

File: USPT

Feb 22, 2000

US-PAT-NO: 6028066

DOCUMENT-IDENTIFIER: US 6028066 A

TITLE: Prodrugs comprising fluorinated amphiphiles

DATE-ISSUED: February 22, 2000

US-CL-CURRENT: 514/180; 514/169, 552/507

APPL-NO: 8/ 887215

DATE FILED: July 2, 1997

PARENT-CASE:

RELATED APPLICATIONS This is a continuation-in-part of U.S. application Ser. No. 08/851,780, filed May 6, 1997, the disclosure of which is hereby incorporated by reference herein in its entirety.



Generate Collection

L3: Entry 1 of 1

File: USPT

Dec 26, 1989

DOCUMENT-IDENTIFIER: US 4889722 A

TITLE: Method for inhibiting post-surgical adhesion formation by the topical administration of tissue plasminogen activator

#### BSPR:

The t-PA is ordinarily administered in a sterile formulation in a pharmaceutically acceptable carrier or vehicle such as phosphate buffered saline ("PBS"), isotonic saline, purified water, an organic carrier (which may be in an aqueous solution or suspension) such as a proteoglycan, for example a glycosaminoglycan such as hyaluronic acid or a derivative thereof (such as a pharmaceutically acceptable salt or ester thereof) or a similar polysaccharide such as chitosan or a derivative thereof, a lipid, for example, a phospholipid micelle or vesicle (the lipid may simply be a mixture of a phospholipid in water), dextran, a cellulosic material, polymers such as polyacrylamide or p-dioxanone, lactide, and/or glycolide based absorbable polymers, (the polymer may be in the form of microcapsules or it may be incorporated in a salve- or ointment-like formulation or a gel or gel-like composition), or in an aqueous solution of a surface active agent such as a polyoxyethylene-polyoxypropylene block copolymer or a sorbitan fatty acid ester-polyoxyethylene ether. Sterilization of the formulation may be accomplished in the usual ways, including aseptic preparation, filtration, exposure to gamma radiation, autoclaving, and the like.

L6: Entry 5 of 6

File: DWPI

Nov 5, 1990

MAIN-IPC

DERWENT-ACC-NO: 1990-372980

DERWENT-WEEK: 199050

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TITLE: Blood anticoagulants for medical appliances - comprise complexes between

natural muco:polysaccharide(s) and natural or synthetic lipid(s)

PRIORITY-DATA: 1989JP-0091471 (April 11, 1989)

PATENT-FAMILY:

PUB-NO PUB-DATE LANGUAGE PAGES

JP 02270823 A November 5, 1990 N/A 000 N/A

INT-CL (IPC): A61K 31/72; A61L 33/00

ABSTRACTED-PUB-NO: JP02270823A

BASIC-ABSTRACT:

Blood anticoagulants comprise complexes between one or more natural mucopolysaccharides and one or more natural or synthetic lipids.

One of the essential components for the anticoagulants is chosen from heparin, chondroitin sulphate, <a href="https://hyaluronic.acid">hyaluronic.acid</a>, dermatin sulphate, keratin sulphate, etc. The lipid component to form the complex may be selected from bio-glucolipids such as galactocerebrosides, globosides, and gangliosides, bio-phospholipids such as phosphatidic acids, <a href="https://phosphatidyl.glycerols">phosphatidic acids</a>, <a href="https://phosphatidyl.glycerols">phosphatidic acids</a>, <a href="https://phosphatidyl.glycerols">phosphatidyl.glycerols</a>, <a href="https://cardiolipins">cardiolipins</a>, <a href="hecitain">lecithin</a>, <a href="https://sphingomyelins">sphingomyelins</a>, <a href="https://anticherolipids.org/anticherolipids">and ceramide ethanolamine phosphoric acid</a>, <a href="https://anticherolipids.org/anticherolipid

The complexes are prepd. e.g. by mixing lecithin ultrasonic-dispersed in weakly acidic buffer (e.g. 2-(N-morpholino)ethanesulphonic acid) with heparin in the same buffer with ice cooling followed by collection of the resultant ppt. by centrifugation and lyophilisation. The complexes thus prepd. are attached to the surface of medical appliances by application method, spray method, or dipping method.

USE/ADVANTAGE - The anticoagulants provide antithrombic properties to medical appliances without lowering mechanical strength of the appliances or damaging them. Thus, the application of the present agents provides an improvement in durability and reliability of the medical devices such as artificial organs, artificial blood vessels, and blood transfusion devices which are used in direct contact with blood.

ABSTRACTED-PUB-NO: JP02270823A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/0



Generate Collection

L6: Entry 6 of 6

File: DWPI

Mar 9, 1989

DERWENT-ACC-NO: 1989-085397

DERWENT-WEEK: 198911

COPYRIGHT 2001 DERWENT INFORMATION LTD

TITLE: Phospholipid, hyaluronic acid and saline compsn. - for use as physiologica l lubricant, esp. for joints

#### ABTX:

Suitably the concn. of the phospholipid is 1-200 mg/ml and that of the <a href="hyaluronic acid">hyaluronic acid</a> is 1-10 mg/ml. Suitable salts of the acid are the sodium, potassium, calcium, aluminium and gold salts and when the cation is multivalent, the concn. of the salt is pref. 1-10 mM. Pref. the phospholipid is phosphatidyl choline, phosphatidyl ethanolamine, phosphatidylserine, <a href="phosphatidyl glycerol">phosphatidyl glycerol</a>, phosphatidyl inositol or sphingomyelin, or a deriv. of one of these, more pref. alpha-dipalmitoyl phosphatidyl choline, esp. as a racemic mixt. The compsn. can reduce the coefft. of kinetic friction imparted to the boundary surfaces of a joint upon articulation to a value of 0.003-0.05. The reduced coefft. occurs as Coalling values up to 20 kg/cm2.



# Freeform Search

j	Database:	US Palents Full Text Database  US Pre-Grant Publication Full-Text Database JPO Abstracts Database EPO Abstracts Database Derwent World Patents Index IBM Technical Disclosure Bulletins			
	Term:	fusogenic peptide same negative			
	Display:	Documents in Display Format: CIT Starting with Number 1			
Generate: O Hit List O Hit Count O Image					
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Search History					

Today's Date: 8/7/2001

DB Name	Query	Hit Count Set Name	
USPT	fusogenic peptide same negative	9	<u>L21</u>
USPT	fusogenic peptide same derivatized	0	<u>L20</u>
USPT	fusogenic with negative	2	<u>L19</u>
USPT	fusogenic with negative charged	0	<u>L18</u>
USPT	fusogenic with negatived charged	0	<u>L17</u>
USPT	HSPC with peg	11	<u>L16</u>
USPT	PEG-HSPC	0	<u>L15</u>
USPT	18 same 14	4	<u>L14</u>
USPT	18 samd 14	0	<u>L13</u>
USPT	18 with 14	0	<u>L12</u>
USPT	110 and 14	5	<u>L11</u>
USPT	18 with 19	26	<u>L10</u>
USPT	ethanol or organic solvent or choroform or alcohol	398211	<u>L9</u>
USPT	phosphatidyl glycerol lipid or DPPG or DMPG or DCPG or DSPG or DOPG	390	<u>L8</u>
USPT,PGPB,JPAB,EPAB,DWPI	16 and 14	4	<u>L7</u>
USPT,PGPB,JPAB,EPAB,DWPI	15 and 11	29	<u>L6</u>
USPT,PGPB,JPAB,EPAB,DWPI	gene therapy	12154	<u>L5</u>
USPT,PGPB,JPAB,EPAB,DWPI	cisplatin or dna damaging	3403	<u>L4</u>
USPT,PGPB,JPAB,EPAB,DWPI	12 same 11	0	<u>L3</u>
USPT,PGPB,JPAB,EPAB,DWPI	transdominant	208	<u>L2</u>
USPT,PGPB,JPAB,EPAB,DWPI	polymerase with ADP-ribose	215	<u>L1</u>

8/7/01 1:27 PM

L11: Entry 1 of 5

File: USPT

Oct 24, 2000

US-PAT-NO: 6136978

DOCUMENT-IDENTIFIER: US 6136978 A

TITLE: Camptothecin analogs and methods of preparation thereof

DATE-ISSUED: October 24, 2000

US-CL-CURRENT: 546/14

APPL-NO: 9/ 212178

DATE FILED: December 15, 1998

#### PARENT-CASE:

RELATED APPLICATIONS This application is a continuation-in-part application of U.S. patent application Ser. No. 08/921,102, filed Aug. 29, 1997, which a continuation-in-part application of U.S. patent application Ser. No. 08/436,799 filed May 8, 1995, now abandoned, which is a continuation-in-part application of U.S. patent application Ser. No. 08/085,190 filed Jun. 30, 1993, now abandoned, the disclosures of which are incorporated herein by reference.

L11: Entry 3 of 5

File: USPT

Jul 18, 2000

US-PAT-NO: 6090800

DOCUMENT-IDENTIFIER: US 6090800 A TITLE: Lipid soluble steroid prodrugs DATE-ISSUED: July 18, 2000

US-CL-CURRENT: 514/180; 552/574

APPL-NO: 8/ 851780

DATE FILED: May 6, 1997

**Generate Collection** 

L11: Entry 5 of 5

File: USPT

Sep 17, 1991

US-PAT-NO: 5049392

DOCUMENT-IDENTIFIER: US 5049392 A

TITLE: Osmotically dependent vesicles

DATE-ISSUED: September 17, 1991

INVENTOR-INFORMATION:

ZIP CODE COUNTRY STATE CITY NAME N/A N/A ŊJ Lawrenceville Weiner; Alan L. N/A East Windsor N/A Fielder: Frank G.

US-CL-CURRENT:  $\underline{424}/\underline{450}$ ;  $\underline{264}/\underline{4.1}$ ,  $\underline{264}/\underline{4.3}$ ,  $\underline{424}/\underline{193.1}$ ,  $\underline{424}/\underline{812}$ ,  $\underline{436}/\underline{829}$ ,  $\underline{514}/\underline{885}$ 

#### CLAIMS:

# What is claimed is:

- 1. Method of producing liposome vesicles comprising active agent comprising contacting liposomes including an entrapped intralamellar osmotic agent one or more times with a washing solution including active agent wherein said solution is effectively hypotonic to said entrapped osmotic agent thereby causing the active agent to be encapsulated in the liposomes.
- 2. The method of claim 1 wherein said osmotic agent is a sugar or a salt.
- 3. The method of claim 1 wherein said active agent is a drug.
- 4. The method of claim 1 wherein said active agent is solvent sensitive.
- 5. The method of claim 1 wherein said active agent is process sensitive.
- 6. The method of claim 1 further comprising the contacting of the liposomes including intralamellar osmotic agent with the washing solution including active agent in discrete addition steps.
- 7. The method of claim 1 further comprising the contacting of the liposomes including intralamellar osmotic agent with the washing solution including active agent via linear osmotic gradient.
- 8. The method of claim 1 further comprising the contacting of the liposomes including intralamellar osmotic agent with the washing solution including active agent via tangential flow.
- 9. The method of claim 1 wherein the concentration of intralamellar osmotic agent in the intralamellar aqueous phase is from about 50 to about 2,500 mg/ml.
- 10. The method of claim 1 wherein the active agent is a protein or immunogen.
- 11. A method of producing liposome vesicles loaded with an active agent comprising the steps of:
- (i) mixing lipid and osmotic agent in an organic solvent and removing the solvent and suspending the resulting material in an aqueous solution thus forming initial liposomes entrapping the osmotic agent;
- (ii) combining the initial liposomes of step (i) with a washing solution of active agent which is effectively hypotonic to the entrapped osmotic agent of the initial liposomes;

the entrapped osmotic agent in the liposome and the washing solution including active agent each being present in relative concentrations such that the washing solution is effectively hypotonic so as to cause the liposomes to swell, rupture under osmotic pressure, release osmotic agent into the washing solution and re-form encapsulating active agent.

L14: Entry 1 of 4

File: USPT

Oct 3, 2000

DOCUMENT-IDENTIFIER: US 6126966 A

TITLE: Liposomes containing a cisplatin compound

#### DEPR:

As described in Example 5, <u>cisplatin</u>-containing liposomes were prepared in accordance with the present invention from HSPC/Chol/mPEG-DSPE in a molar ratio of 50.6/44.3/5.1. A comparative liposome composition was prepared, which was identical to the liposomes of the present invention, except mPEG-DSPE was replaced with the same molar amount of distearyl phosphatidyl glycerol ( $\underline{DSPG}$ ), which has the same hydrocarbon tail and the same charge in the polar head group as mPEG-DSPE. The comparative liposome composition, lacking the hydrophilic polymer, did not have a surface coating of hydrophilic polymer chains on either the inner or outer lipid bilayers.

## DEPR:

Cisplatin-containing liposomes were prepared with no inner and outer surface coating of hydrophilic polymer chains for comparison to the liposomes of the present invention. Comparative liposomes were prepared as described in Example 3, except distearyl phosphatidylglycerol (DSPG) was substituted for the PEG-DSPE derivative, e.g., the liposome composition consisted of HSPC/Chol/DSPG in a molar ratio of 50.6/44.3/5.1.

#### DETL:

Stability of PEG-Coated Liposomes TABLE 2 and Comparative Liposomes at 60.degree. C. for 6 Hours Incubation Cisplatin % Temperature Conc. Encapsulated Size Formulation and Time (mg/ml) Platinum (nm) pH HSPC/chol/ 0 0.38 100 116 -- mPEG-DSPE

60.degree. C.; 0.29 96 117 -- 6 hours HSPC/chol/ 0 0.25 100 149 6.53 DSPG 60.degree. C.; 0.14 82 148 6.62 (comparative 6 hours composition)

# DETL:

Stability of PEG-Coated Liposomes TABLE 3 and Comparative Liposomes at 40.degree. C. for 2 Weeks Incubation Cisplatin % Temperature Conc. Encapsulated Size Formulation and Time (mg/ml) Platinum (nm) pH HSPC/chol/ 0 0.75 100 108 6.62 mPEG-DSPE

40.degree. C.; 0.53 95 114 6.09 2 weeks HSPC/chol/ 0 0.51 100 146 6.53 DSPG 40.degree. C.; 0 81 137 5.84 (comparative 2 weeks composition)

## DETL:

Stability of PEG-Coated Liposomes TABLE 4 and Comparative Liposomes at 2-8.degree. C. for 2 Months Time Cisplatin Pt % En-(months) Conc. Conc. capsulated Size Formulation at 2-8.degree. C. (mg/ml) (mg/ml) Platinum (nm) pH HSPC/chol/ 0 0.92 0.71 100 Platinum (nm) pH 109 6.5 mPEG- 1 0.85 0.71 100 109 6.61 DSPE 3 0.87 0.68 100 109 6.48 6 0.90 0.73 99 110 6.54 18 0.86 0.71 99 109 6.30 HSPC/chol/ 0 0.51 0.44 100 146 6.53 DSPG 2 0.11 0.42 98 143 6.50 (comparative composition)

L14: Entry 3 of 4

File: USPT

Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5843475 A

TITLE: Delivery and activation through liposome incorporation of

diaminocyclohexane platinum (II) complexes

We have previously developed liposomal formulations of lipophilic Pt-complexes for in vivo administration [5,6] and have studied their chemical and biological properties. [1,4,7] The general structure of the preferred Pt-complexes used is [DACH--Pt--R.sub.2], where DACH is trans-R,R-1,2-diaminocyclohexane and R is a lipophilic carboxylate group. The Pt-complex is thought to intercalate between the phospholipid molecules of the lipid bilayers of the liposomes. The most remarkable characteristic of these complexes is that they are not cross-resistant with cisplatin, both in vitro and in vivo. [1,5] The leading formulation, liposomal cis-bis-neodecanoato-DACH-platinum (II) (NDDP) uses large liposomes composed of dimyristoylphosphatidyl choline (DMPC) and dimyristoylphosphatidyl glycerol (DMPG) at a 7:3 molar ratio and is now in clinical trials. Interestingly, liposomal-NDDP must undergo a chemical degradation/activation process into an active intermediate(s) within the liposomes shortly after liposome preparation in order to exert its antitumor activity. [7] We have previously reported that this chemical reaction depends on the content of <a href="MPG">DMPG</a> in the lipid bilayer, and based on this finding, we hypothesized that a DMPG-Pt complex might be one of the active intermediates. We have also reported that the structure of the Pt-complex has an effect on the intraliposomal drug stability: the compounds with linear and short carboxylate leaving groups are more stable and less potent than the compounds with branched or longer linear leaving groups. [8] A full characterization of the active intermediate(s) as well as the different factors that influence the degradation/activation process is mandatory for the development of one of these agents as a pharmaceutical product.

**Generate Collection** 

L14: Entry 4 of 4

File: USPT

Jan 24, 1995

DOCUMENT-IDENTIFIER: US 5384127 A

TITLE: Stable liposomal formulations of lipophilic platinum compounds

## BSPR:

Complexes with a leaving group (R) of 5 or 6 carbons are completely stable when entrapped within lipid bilayers, whether or not DMPG is present. They also have a very high entrapment efficiency (% drug initially added that becomes associated with the lipid vesicles), usually greater than 90%, exhibit in vivo antitumor activity similar to or greater than that of cisplatin in murine leukemias sensitive to cisplatin, and have also significant in vivo antitumor activity in murine leukemias resistant to <u>cisplatin</u>. Complexes where the R group has 7-12 carbons are very stable (.gtoreq.95% at 6 hours) in liposomes comprising DMPC:DMPG at a 7:3 molar ratio, and have in vivo antitumor activity similar to that of complexes whose leaving groups have 5-6 carbons. However, increasing DMPG content in liposomal formulations of these complexes having leaving groups with 7-12 carbons results in increased degradation. Complexes with R groups having more than 12 carbons show significant degradation in liposomal formulations, whether the relative DMPG content is low or high.

#### RSPL:

where DACH is diaminocyclohexane, and where R is a branched aliphatic carboxylato group of 5-10 carbons. One of the these complexes, cis-bis-neodecanoato-trans-R,R-1,2-diaminocyclohexane platinum-(II), entrapped in multilamellar vesicles composed of dimyristoyl phosphatidyl choline (DMPC) and dimyristoyl phosphatidyl glycerol (DMPG) at a 7:3 molar ratio (L-NDDP), has been the subject of a Phase I study in humans, and is now in two other clinical studies. Although information on the antitumor activity of L-NDDP in humans is not yet available due to its early stage of development, all preclinical information to date suggests that the concept of a lipophilic cisplatin analog entrapped in liposomes may be a therapeutic strategy of substantial use in the treatment of certain human malignancies.

The above-described experiments indicate that complexes with leaving groups having 5 or 6 carbon atoms are completely stable (stability at 6 hours 100%) when entrapped within the lipid bilayers, independently of the presence of DMPG. The entrapment efficiency of these complexes is very high (>90%). Further, the in vivo antitumor activity of liposomal formulations of these complexes is similar to or greater than that of cisplatin. Also, these complexes are not isomeric mixtures, and are capable of meeting standard stability criteria for pharmaceutical products.

L10: Entry 2 of 26

File: USPT

Apr 10, 2001

US-PAT-NO: 6214375

DOCUMENT-IDENTIFIER: US 6214375 B1 TITLE: Phospholipid formulations DATE-ISSUED: April 10, 2001

US-CL-CURRENT: 424/450; 424/1.11, 514/8

APPL-NO: 9/ 277600

DATE FILED: March 29, 1999

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS This application is a continuation-in-part of application Ser. No. 08/680,826, filed Jul. 16, 1996 and now abandoned.

L10: Entry 17 of 26

File: USPT

Nov 18, 1997

DOCUMENT-IDENTIFIER: US 5688697 A

TITLE: Stabilized microspheres and methods of preparation

#### BSPR:

The organic cosolvent is a water miscible organic solvent which performs the function of solubilizing all of the components. Examples include short chain alcohols such as ethanol and dimethylformamide (DMF). Individually, the components are either insoluble in each other or insoluble in the organic cosolvent. For example, 1) lipids are not soluble in silicone and 2) DSPG and DSPE are not soluble in ethanol. However, as a combined system these components are soluble. The water-insoluble dye, if present, is soluble in silicone or lipids. It has also been found that the silicone allows incorporation of as much as ten times the amount of dye which can be incorporated without silicone (mM dye/.mu.M Pi without silicone=0.3, with silicone=3.0).

#### DEPR:

Phosphatidyl choline (10 mg, either DSPG, Avanti Polar Lipids or L-alpha mixed chains, Sigma Chemical Co.) was mixed with 1 mg DSPG, 40 .mu.l SF 1154 silicone, 50 .mu.l cardiolipin (Sigma Chemical Co., 5.2 mg/ml in ethanol) and 1.5 ml ethanol. DSPG is optional. The solution was heated at 55.degree. C. for 1 hour, then added dropwise through a Gelman 4450 0.2 .mu.m 13 mm filter to 4.5 ml water mixing on a vortex. The resulting microemulsions contained 174 nm particles. The microemulsions were dialyzed in SPECTRA/POR 2 dialysis bags (Spectrum Medical Industries, Inc., Los Angeles, Calif., 12-14000 MW cutoff) against 10 mM EDTA overnight to remove ethanol.

L10: Entry 25 of 26

File: USPT

Mar 31, 1992

US-PAT-NO: 5100591

DOCUMENT-IDENTIFIER: US 5100591 A

TITLE: Process for preparing lipid microparticles

DATE-ISSUED: March 31, 1992

INT-CL: [5] B61J 13/02

US-CL-ISSUED: 264/4.6; 264/4.1, 424/450 US-CL-CURRENT: 264/4.6; 264/4.1, 424/450 FIELD-OF-SEARCH: 264/4.1, 264/4.6, 424/450



L16: Entry 2 of 11

File: USPT

Jan 30, 2001

DOCUMENT-IDENTIFIER: US 6180134 B1

TITLE: Enhanced ciruclation effector composition and method

# DRPR:

FIG. 12 shows a plot of a time course of gallium-67 labelled liposomes composed of hydrazide PEG-DSPE, partially hydrogenated egg phosphatidylcholine (PHEPC), and cholesterol (PEG-HZ fluid liposomes) or hydrazide PEG-DSPE, hydrogenated serum phosphatidylcholine (HSPC), and cholesterol (PEG-HZ rigid liposomes) in the bloodstream; and

L16: Entry 3 of 11

File: USPT

Oct 3, 2000

DOCUMENT-IDENTIFIER: US 6126966 A

TITLE: Liposomes containing a cisplatin compound

## DEPR:

In the example detailed below, the vesicle-forming lipid <u>HSPC</u>, the derivatized vesicle-forming lipid <u>PEG</u>-DSPE and cholesterol are dissolved in ethanol heated to about 65.degree. C., just above HSPC phase transition temperature's between about 52-60.degree. C. An aqueous solution of native cisplatin is heated to between 63-67.degree. C. The solutions are mixed together to form liposomes containing the cisplatin compound in entrapped form. The method of the invention achieves a high encapsulation of cisplatin, typically encapsulating between 10-20 .mu.g drug/mg lipid, and provides liposomes having, in addition to the outer surface coating, an inner surface coating of hydrophilic polymer chains, with the cisplatin compound stably entrapped within the liposome.

#### DEPR

In the present invention, the liposome composition is typically prepared with between about 25-80 mole percent vesicle-forming lipids, 10-40 mole percent cholesterol, and 1-20 mole percent polymer-derivatized lipid. One exemplary liposome formulation includes hydrogenated soy phosphatidylcholine (HSPC) and cholesterol (Chol), in about a 1:1 molar ratio, and between about 1-5 mole % of DSPE-PEG, added to form liposomes with an inner and outer bilayer surface coating of PEG.

#### DEPR:

257.0 g PEG-DSPE, 719.4 g HSPC and 308.4 g cholesterol (molar ratio of  $50.6/44.\overline{3/5}.1$ ) were added to 900 ml dehydrated ethanol at 60-65.degree. C. and mixed until dissolved, approximately 2 hours. The dissolved lipids were added to 7670 g of drug solution to give a total lipid concentration of approximately 150 mg/ml.

May 2, 2000 File: USPT L16: Entry 4 of 11

DOCUMENT-IDENTIFIER: US 6056973 A

TITLE: Therapeutic liposome composition and method of preparation

#### DEPR:

As described in Example 2C, pre-formed liposomes composed of hydrogenated soy phosphatidylcholine (HSPC), cholesterol, <u>PEG-DSPE</u> and fluorescein-labelled DHPE, in a molar ratio of 53.5/40/4/2.5, were incubated with the E-selectin-PEG-DSPE targeting conjugate at 37.degree. C. for 1 hour. The fluorescein-labeled liposomes were administered to mice equipped with a dorsal skin fold window chamber. Endotoxin was applied topically in the window chamber 10 minutes after intravenous injection of the liposomes. FIGS. 5A-5B are scanned images of photomicrographs of the blood vessels under transmitted light prior to liposome administration (FIG. 5A) and 5 hours after administration of the target-cell sensitized, fluorescein-labeled liposomes (FIG. 5B).

E-selectin Fab-PEG-DSPE targeting conjugate was inserted into pre-formed liposomes as follows. The pre-formed liposomes were composed of hydrogenated soy phosphatidylcholine (HSPC), cholesterol and PEG-DSPE in a molar ratio of 53.5/40/4. The liposomes included 2.5 mole percent of the lipid marker of fluorescein-DHPE (Molecular Probes, Inc.). The pre-formed liposomes were incubated with the micellular solution of the targeting conjugate at 37.degree. C. for 1 hour. The insertion mixture was placed on a Bio-Rad A50m column equilibrated with 25 mM HEPES/saline pH 7.2 and 0.5 ml fractions were collected. Spectrophotometric analysis of the fractions indicated that the insertion efficiency of the Fab targeting conjugate into the liposomes was approximately 100% after 2 hours at 37.degree. C.

L16: Entry 5 of 11

File: USPT

Oct 26, 1999

DOCUMENT-IDENTIFIER: US 5972379 A

TITLE: Liposome composition and method for administering a quinolone

## DEPR:

Liposome having a surface-coating of polyethylene glycol were prepared by dissolving 661.1 mg hydrogenated soy phosphatidylcholine (HSPC), 220.5 mg cholesterol and 220.5 mg of polyethylene glycol derivatized to disteroyl phosphatidylethanolamine (PEG-DSPE) in 10 ml chloroform in a 250 mL round bottom flask. The chloroform was removed using a flash evaporator under reduced pressure until dryness. To the thin lipid film on the surface of the flask was added 15 ml of a solution of 250 mM ammonium sulfate, pH 5.5 and the lipids were dispersed in the solution by vigorous shaking for approximately 30 minutes at 60 degree. C. The multilamellar vesicles obtained were extruded 6 times through a 0.4 .mu.m pore-size Nucleopore polycarbonate filter, 6 times through a 0.1 .mu.m polycarbonate filter and 3 times through a 0.05 .mu.m polycarbonate filter using a stainless steel extrusion cell under a pressure of 200-400 psig. The extrusion process was carried out at 60.degree. C. Liposomes after the extrusion process had a mean-diameter of 100.+-.30 nm. The liposomes were then dialyzed overnight against 4 liters 10% sucrose to remove external ammonium sulfate at 4.degree. C.

Liposomes were prepared as described above in Comparative Example 1 by dissolving 585 mg hydrogenated soy phosphatidylcholine (HSPC), 261 mg cholesterol and 210 mg of PEG-DSPE (prepared as described, for example, in Zalipsky (1995) to form liposomes with the following composition: 50% HSPC, 45% cholesterol and 5% mPEG-DSPE.

L16: Entry 8 of 11

File: USPT

Dec 1, 1998

DOCUMENT-IDENTIFIER: US 5843473 A

TITLE: Method of treatment of infected tissues

#### DEPR:

Methoxy-ethoxy-cholesterol was prepared by coupling methoxy ethanol to cholesterol via the trifluorosulfonate coupling method described in Section I. PEG-PE composed of methoxy PEG, molecular weight 1900 and was derivatized DSPE as described in Example 2. The PEG-PE lipids were formulated with selected lipids from among distearyl-PC (DSPC), partially hydrogenated soy PC (HSPC), cholesterol, and ethoxylated cholesterol, as indicated at the left in Table 7. The data show that (a) ethoxylated cholesterol, in combination with PEG-PE, gives about the same degree of enhancement of liposome lifetime in the blood as PEG-PE alone. By itself, the ethoxylated cholesterol provides a moderate degree of enhancement of liposome lifetime, but substantially less than that provided by PEG-PE.

**Generate Collection** 

L16: Entry 11 of 11

File: USPT

May 25, 1993

US-PAT-NO: 5213804

DOCUMENT-IDENTIFIER: US 5213804 A

TITLE: Solid tumor treatment method and composition

DATE-ISSUED: May 25, 1993

US-CL-CURRENT: 424/450; 424/426, 424/78.31

DISCLAIMER DATE: 20080507

APPL-NO: 7/ 642321 DATE FILED: January 15, 1991

## PARENT-CASE:

This application is a continuation-in-part of copending application Ser. No. 425,224, filed Oct. 20, 1989 issued May 7, 1991 as U.S. Pat. No. 5,013,556.

L21: Entry 6 of 9

File: USPT

Jun 1, 1999

DOCUMENT-IDENTIFIER: US 5908777 A

TITLE: Lipidic vector for nucleic acid delivery

#### DEPR:

In a preferred embodiment, an amphipathic helical oligopeptide is incorporated via charge interaction, to serve as a <u>fusogenic peptide</u>. Particularly preferred in this regard is a 20 amino-acid oligopeptide having the sequence GLFGAIAGFIESILELALEL (SEQ ID NO:1), where the underscored amino acids are negatively charged. The salient features of this non-immunogenic molecule, which can be synthesized by standard methods, are that it is a short peptide (about 20 residues in length) and is non-helical at neutral pH. At the acidic pH 5 or 6, which is commonly found in endosomes, the peptide can undergo a conformational change to an amphipathic alpha helix, which can insert into a cellular membrane and form an aqueous pore. The first eleven residues are identical to the influenza viral fusion peptide N-terminal conserved sequence. The remaining portion contains three negatively charged glutamic acid residues in neighboring positions of a helical wheel which confers to this peptide a pH-sensitive trigger. The <u>negative</u> charge of the glutamic acid residues allows for charge-based interaction with the DNA/polycation complex. A leucine-zipper motif is incorporated into the design of the molecule to allow several of the peptides to interact with each other, facilitating pore formation after membrane insertion.